Notice of Allowability	Application No.	Applicant(s)	
	10/072,065	YOSHIDA ET AL.	
	Examiner	Art Unit	
	Man Phan	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the communications filed 2/8/2002*.

2. ☒ The allowed claim(s) is/are *1-20*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 4/15/02
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Reasons for allowance

1. The application of Yoshida et al. for the "Transmitter, receiver and transmitting method in multi-carrier transmission system" filed 02/08/2002 has been examined. This application is a national stage entry of PCT/JP99/05390 International Filing Date: 09/30/1999.

2. Claims 1-20 are allowable.

3. The following is an examiner's statement of reasons for allowance: The instant application is deemed to be directed to a no obvious improvement over the prior art of record. The improvement comprises: an encoding unit converting transmitting data information, the number of bits of which is smaller than kn bits, which are data used to express n sub-carriers, into a signal point pattern, in which the peak power of a transmitting signal is small, of signal point patterns expressed by the kn bits, the encoding unit further comprising a sub-carrier generation unit generating sub-carriers composed of signal points in which the signal point pattern with a small peak power is divided into two orthogonal groups in four quadrants of an IQ plane and in which the signal point of the part of sub-carriers has a prescribed correlation with a signal point of another sub-carrier; and a mapping unit generating transmitting signals of n sub-carriers using an output of the encoding unit, as expressly recited in the claims.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Yoshida (US#6,678,335) is cited to show the encoding having peak power reduction and error-correction capabilities in multicarrier transmission and decoding for the same.

The Yoshida (US#2004/0101061) is cited to show the encoding having peak power reduction and error-correction capabilities in multicarrier transmission and decoding for the same.

The De Couasnon et al. (US#5,329,552) is cited to show the method of binary encoding the points of a constellation used in a multicarrier modulation of OFDM type.

The Jones et al. (US#6,307,892) is cited to show multicarrier communication system and method for peak power control.

The Verma et al. (US#6,853,632) is cited to show technique for peak power to average power ratio reduction in multicarrier communication systems.

The Feng et al. (US#2004/0146115) is cited to show the method and apparatus for protecting and transmitting the side information related to peak-to-average power ratio reduction in a multicarrier system.

The Long et al. (US#5,710,990) is cited to show the transmitter which adjusts peak-to-average power of a multicarrier signal by switching between a group of channels and a phase-adjusted group of channels.

The Doberstein et al. (US#6,424,678) is cited to show scalable pattern methodology for multi carrier communication systems.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Man U. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached Monday through Friday from 6:00 am to 3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-2600.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

MPhan

Oct. 25, 2005

Man u. phan

MAN U. PHAN
PRIMARY EXAMINER